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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,199

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EXAMINER

TIETJEN, MARINA ANNETTE

ART UNIT

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3753

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,199	Applicant(s) ARNOLD ET AL.	
	Examiner MARINA TIETJEN	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 12-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is responsive to the amendment filed on 06/09/2009. As directed by the amendment: claims 1, 13, and 14 have been amended, claims 10 and 11 have been cancelled, and new claim 16 has been added. Thus, claims 1-9 and 12-16 are presently pending in this application.

Response to Arguments

2. Applicant's arguments with respect to claims 1-9 and 12-16 have been considered but are moot in view of the new ground(s) of rejection. The instant Office Action has been made Non-Final due to the new 35 U.S. C. 112 rejections of originally presented claims 8 and 12.

Claim Objections

3. Claim 12 is objected to because of the following informalities: Claim 12 is dependent on cancelled claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-9 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1, the limitation "an elastomer" in line 8, and the limitation "an elastomer seal" in line 12, are indefinite as it is unclear if the elastomer seal in line 12 is the same as the elastomer in line 8. For the purpose of examination, it will be assumed the elastomer seal is the same as the elastomer.

7. Claim 8, the limitation "free of edges" is indefinite as it is unclear how a body can have no edges. For the purpose of examination, it will be assumed the limitation refers to the first or second body having no ridges or shoulders.

8. Claim 12 recites the limitation "chamber housing" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

9. Claims 2-7 and 9 are included due to their dependency on claim 1.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claim 13 is rejected, as well as 1-5, 8, and 9, as far as they are definite, under 35 U.S.C. 102(b) as being anticipated by Schwerdt et al. (U.S. Pat. No. 4,813,601).

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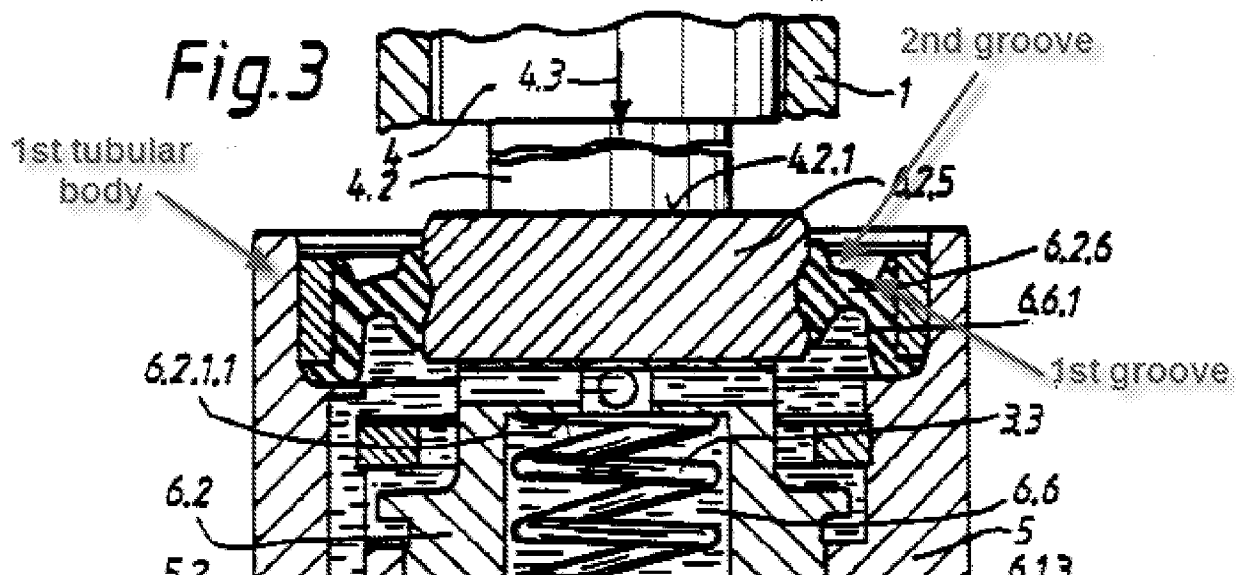
Schwerdt et al. disclose a device (fig. 3) comprising:

a housing (5) comprising a first recess (5.3) in which a first (6.2) and a second (6.1) plunger are displaceably mounted,

wherein the first (6.2) and the second (6.1) plunger are effectively connected via at least one transfer chamber (6.6) using a fluid, the effective connection causes a displacement of the second plunger (6.1) if the first plunger (6.2) is moved and vice versa, and wherein the transfer chamber (6.6) being is hydraulically connected via a sealing gap (6.5) with a compensating chamber (6.3) which provides delayed compensation for differences in pressure between the transfer chamber (6.6) and the compensating chamber (6.3); and

a sealing system located at a first end (upper end) of the housing (5), the sealing system including:

a first tubular body (see labeled fig. 3 below) rigidly coupled to or integral with the housing (5);



a second body (6.2.5) positioned inside the first tubular body (labeled in fig. 3 above), the second body (6.2.5) rigidly coupled to with the first plunger (6.2) such that the second body (6.2.5) moves relative to the first body during displacement of the first plunger (6.2) relative to the second plunger (6.1); and

an elastomer seal (6.2.6) positioned between the first tubular body (labeled above) and the second body (6.2.5), the elastomer seal (6.2.6) including a first groove (see labeled fig. 3above) extending all the way around the elastomer seal (6.2.6) and located at a distance from an outer wall of the elastomer seal (6.2.6);

the elastomer seal (6.2.6) closing and sealing the space between the first tubular body (labeled above) and the second body (6.2.5) such that fluid in the compensating chamber (6.3) is prevented from flowing past the elastomer seal (6.2.6);

a tensioning means (4.2 acts on top side and 3.3 acts on lower side) configured to support the elastomer seal (6.2.6) between the first tubular body (labeled above) and the second body (6.2.5) rigidly coupled to or integral with the first plunger (6.2);

wherein a second groove (see labeled fig. 3 above) is embodied in the elastomer seal (6.2.6) running radially inside the first groove (labeled fig. 3 above);

wherein the first groove (labeled above) is deeper than the second groove (labeled above);

wherein the second groove (labeled above) is wide enough to open out into the first groove (labeled above);

wherein the areas of the first (upper portion of 5) and second body (6.2.5) against which the elastomer seal (6.2.6) abuts are free of edges; and

wherein the first (upper portion of 5) and second body (6.2.5) are embodied as tubular shapes.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claim 13 is rejected, as well as 1-5, 8, 9, and 12, as far as they are definite, under 35 U.S.C. 103(a) as being unpatentable over Ruehle et al. (U.S. Pat. No. 6,685,105) in view of Schaap (U.S. Pat. No. 6,461,695).

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Ruehle et al. disclose a device (1) comprising:

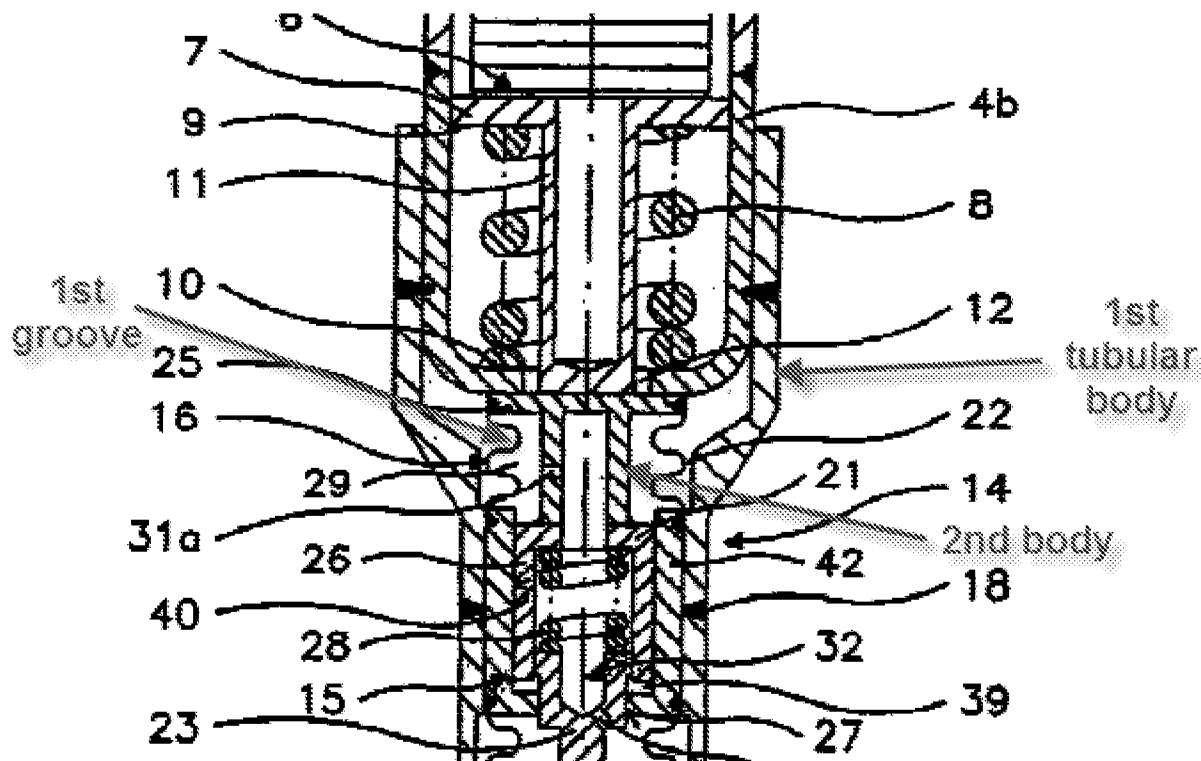
a housing (13) comprising a first recess (41) in which a first (21) and a second (23) plunger are displaceably mounted,

wherein the first (21) and the second (23) plunger are effectively connected via at least one transfer chamber (29) using a fluid, the effective connection causes a displacement of the second plunger (23) if the first plunger (21) is moved and vice versa, and wherein the transfer chamber (29) being is hydraulically connected via a sealing gap (40) with a compensating chamber (39) which provides delayed compensation for differences in pressure between the transfer chamber (29) and the compensating chamber (39); and

a sealing system located at a first end (upper end) of the housing (13), the sealing system including:

a first tubular body (see labeled fig. below) rigidly coupled to or integral with the housing (13);

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a second body (see labeled fig. above) positioned inside the first tubular body (labeled in fig. above), the second body (labeled above) rigidly coupled to or integral with the first plunger (21) such that the second body moves relative to the first body during displacement of the first plunger (21) relative to the second plunger (23); and

a seal (22) positioned between the first tubular body (labeled above) and the second body (as labeled above), the seal (22) including a first groove (see labeled fig. above) extending all the way around the seal (22) and located at a distance from an outer wall of the seal (22);

the seal (22) closing and sealing the space between the first tubular body (labeled above) and the second body (labeled above) such that fluid in the compensating chamber (39) is prevented from flowing past the seal (22);

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a tensioning means (8) configured to support the seal (22) between the first tubular body and the second body rigidly coupled to or integral with the first plunger (21);

wherein the areas of the first and second body (labeled in fig. above) against which the seal (22) abuts are free of edges;

wherein the first and second body (labeled fig. above) are embodied as tubular shapes; and

wherein the chamber housing is welded to the first body and the plunger is welded to the second body (triangular shaped welds shown).

However, Ruehle et al. does not disclose wherein the seal is an elastomer; wherein the first groove is at a distance of 0.2 to 1.5 mm from the wall of the recess of the first body; and wherein the second groove is a distance of 0.2 to 1.5 mm from the position of the elastomer on the second body.

Schaap teaches known materials for the construction of bellows includes elastomers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Ruehle's bellows seal such that it were constructed of an elastomer, as taught by Schaap, in a manner known in the art.

However, Schaap does not teach wherein the first groove is at a distance of 0.2 to 1.5 mm from the wall of the recess of the first body; and wherein the second groove is a distance of 0.2 to 1.5 mm from the position of the elastomer on the second body.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the location of the first groove to be at a distance of 0.2 to 1.5 mm from the wall of the recess of the first body or the second groove a distance of 0.2 to 1.5 mm from the position of the seal on the second body, since it has been held that the provision of adjustability, where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

15. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schwerdt et al. (U.S. Pat. No. 4,813,601) in view of Blenner et al. (U.S. Pat. No. 4,396,450).

Schwerdt et al. disclose a method for producing a device (fig. 3) with a first body (5) which has a recess (5.3) and a second body (6.2.5) which is introduced into the recess (5.3), and an elastomer (6.2.6), which is inserted into the space between the first (5) and second (6.2.5) body in the recess (5.3) and thus closes and seals in this area the space between the first (5) and second (6.2.5) body, with the elastomer (6.2.6) having a first groove (labeled in fig. 3 below) which extends all the way along the recess (5.3) at a distance from the wall of the recess, the method comprising the steps of:

introducing and vulcanizing the elastomer (6.2.6; col. 5, line 14) such that the elastomer (6.2.6) is positioned in the space between the first body (5) and the second body (6.2.5); and

configuring a tensioning means (4.2 acts on top side and 3.3 acts on lower side) to act on a side of the elastomer (6.2.6) to support the elastomer (6.2.6) in the space between the first body (5) and the second body (6.2.5).

However, Schwerdt et al. does not disclose the method of adhering the elastomer to the first and second bodies of the device, wherein the method also comprises the steps of plasma-activating the first body and the second body, and providing the first body and the second body with a bonding agent in the areas in which the elastomer is to be applied.

Blenner et al. teach a method of bonding vulcanizable natural and synthetic rubbers to metal comprising the steps of plasma-activating the first body and the second body, providing the first body and the second body with a bonding agent in the areas in which the elastomer is to be applied, and then introducing and vulcanizing the

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elastomer, for the purpose of providing adhesion with improved resistance to adverse and aggressive environments (col. 1, lines 34-58).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Schwerdt such that the method of adhering the elastomer to the first and second bodies comprised of the steps of plasma-activating the first body and the second body, providing the first body and the second body with a bonding agent in the areas in which the elastomer is to be applied, and then introducing and vulcanizing the elastomer, as taught by Blenner et al., for the purpose of providing adhesion with improved resistance to adverse and aggressive environments.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Pub. No. 2003/0072510 (Zimmerman) discloses a first and second tubular body with a vulcanized seal member sealing in between; wherein the seal includes grooves.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARINA TIETJEN whose telephone number is (571) 270-5422. The examiner can normally be reached on Mon-Thurs, 9:30AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ROBIN EVANS can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T./
Examiner, Art Unit 3753

/John K. Fristoe Jr./
Primary Examiner, Art Unit 3753